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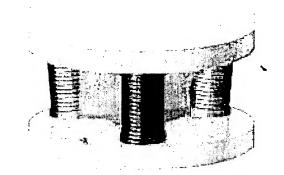
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Compliance Wrist

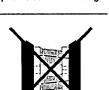
- Robotic applications: Excellent for inserting components that may be mis-aligned or skewed with respect to mating components. Reduces part jamming which could transmit excessive forces back to the robot.
- Automation applications: For insertion applications where part positioning may be less than precise. Compliance in torsion, bending and lateral directions allow this devise to compensate for part placing inaccu-



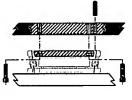




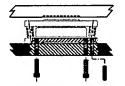
On size 50-80, robot side has tapped holes for mounting



Not recommended in horizontal axis applications where the weight attached to the tool side can deflect the device



On size 125-300, robot side has counter bored holes for mounting with a dowel hole and raised boss for location



On all sizes tool side has tapped holes for mounting. Sizes 125-300 have pilot hole and dowel hole for positioning

Technical Specifications:

Pneumatic Specifications Imperial Pressure Operating Range 40-100 psi Cylinder Type Dynamic Seals

Double Acting Internally Lubricated Buna-N Valve Required to Operate 4-way, 2-position

Air Quality Requirements

Air Filtration Air Lubrication Air Humidity

40 Micron or Better Not Necessary* Low Moisture Content (dry)

Temperature Operating Range

Buna-N Seals (standard) -20°~180° F -30°~80° C

Metric

3-7 bar

Maintenance Specifications[†]

Expected Life

Normal Application w/ Preventative Maintenance Field Repairable Seal Repair Kits Available

5 million cycles 10+ million cycles* Yes

*Addition of lubrication will greatly increase service life *See Maintenance Section

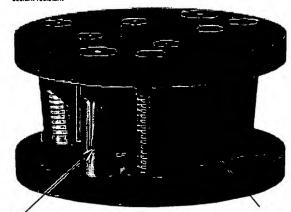
Product Features

Quality Components

Anodized aluminum components Elements are cutting fluid and coolant resistant

Lifetime Lubrication

Life time cylinder and locking mechanism lubrication

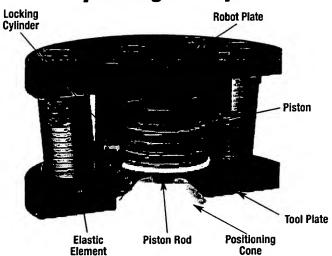


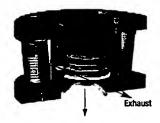
Overload Pins Overload pins and anti-rotation device (optional)

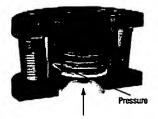
Locking Cylinder

Locking cylinder (standard on 125 and larger) creates a rigid coupling between the robot and tool plates

Operating Principle







- . Two aluminum plates are connected by elastomeric elements which allow lateral, angular, and rotational movement between them.
- · Larger units with locking cylinder allow the two plates to be rigidly connected to one another during acceleration or deceleration of the payload.

Style-RCW Compliance Wrist

Size-50

Style: Max. Payload: Lateral Comp. (X/Y): Weight:

2.4 lbs. 1.0 Kg 0.118 in. 3 mm 0.57 lbs. 0.26 Kg



See 9.14

Style-RCW Compliance Wrist

Size-80

Style: Max. Payload: Lateral Comp. (X/Y): Weight:

RCW-80-3 5 lbs. 2.4 Kg 0,118 in. 3 mm 0.57 lbs. 0.26 Kg

See 9.15

Style-RCW Compliance Wrist

Size-100 Style: Max. Payload: Lateral Comp. (X/Y): Weight:

8 lbs. 0.118 in. 1.0 lbs.



See 9.16 & 9.17

Style-RCW Compliance Wrist

Size-125 Style: Max. Payload: Lateral Comp. (X/Y): Weight:

RCW-125-6 15 lbs. 7 Kg 0.079 in. 2.01 mm 2.6 lbs.



See 9.18 Page 9.18

Style-RCW Compliance Wrist

Size-160 Style: Max. Payload: Lateral Comp. (X/Y):

Weight:

40 lbs. 18 Kg 0.079 in. 2 mm 3.7 lbs. 1.7 Kg



See 9.19 & 9.20

Style-RCW Compliance Wrist

Size-200

Style: Max. Payload:

 Style:
 RCW-200-8,-8

 Max. Payload:
 115 lbs.
 52 Kg

 Lateral Comp. (X/Y):
 0.118 in.
 3 mm

 Weight:
 8.8 lbs.
 4.0 Kg



Style-RCW Compliance Wrist

Size-300

Style: Max. Payload: Lateral Comp. (X/Y): Weight:

330 lbs. 150 Kg 0.098 in. 2 mm 12.8 lbs. 5.8 Kg

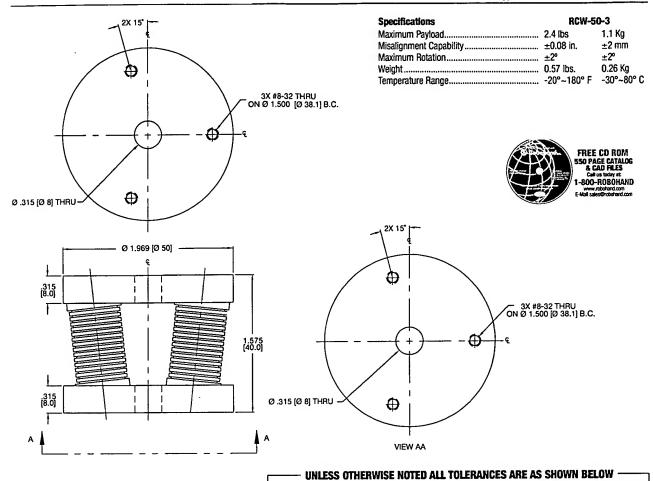


See 9.23

RGW SERIES 9.23

Metric [mm]

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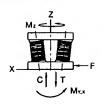
Loading Information

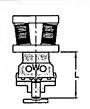
How to Order:

Dimensions are symmetrical about centerline

D 0

Third Angle Projection





Metric

BASIC MODEL

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All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]

RCW-50-3

0

Metric Threads Course Pitch

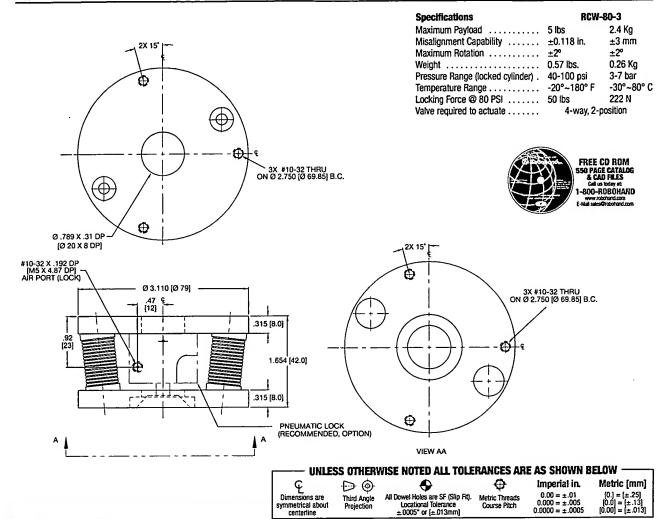
Imperial in.

0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005

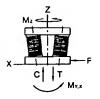
Loading Capacity

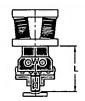
Loading Capacity	Imperial	Metri
Maximum Force F	18 lbs.	80 N
Maximum Tension T	90 lbs.	400 N
Maximum Compressive C	90 lbs.	400 ₹
Maximum Moment M _x	177 in1bs.	20 Nr
Maximum Moment My	177 in1bs.	20 Nr
Maximum Moment Mz	177 inlbs.	20 Nr
Maximum Payload W	2.4 lbs.	1.1 K

	Imperial	Metric
Torsional Stiffness about Z axis	157 in-lbs/deg	17 N-m/deg
Lateral Stiffness (X and Y axis)	228 lbf/in	40 N/mm
Axial Stiffness (compression Z axis)	9136 lbf/in	1600 N/mm
Insertion Point L Max	2 in.	50 mm



How to Order:





BASIC MODEL

PNEUMATIC LOCKING

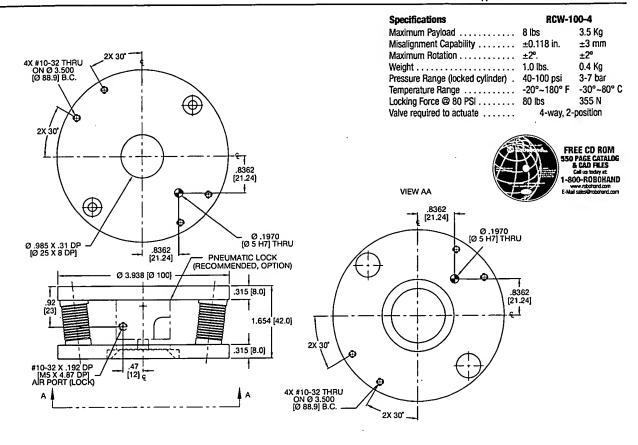
RCW-80-3 -

OVERLOAD PINS

Loading Capacity

	m.pones	,,,,,,,,,,,
Maximum Force F	18 lbs.	80 N
Maximum Tension T	90 lbs.	400 N
Maximum Compressive C	90 lbs.	400 N
Maximum Moment Mx	177 in1 bs.	20 Nm
Maximum Moment My	177 in1bs.	20 Nm
Maximum Moment Mz	177 in1bs.	20 Nm
Maximum Payload W	5 lbs.	2.4 Kg

	Imperial	Metric
Torsional Stiffness about Z axis	248 in-lbs/deg	28 N-m/deg
Lateral Stiffness (X and Y axis)	228 lbf/in	40 N/mm
Axial Stiffness (compression Z axis)	9136 lbf/in	1600 N/mm
Incortion Doint & Mary	A in	100 mm



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW 0 Imperial in. Metric [mm] **D ©** Œ 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005 $[0.] = [\pm .25]$ $[0.0] = [\pm .13]$ $[0.00] = [\pm .013]$ All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm] Metric Threads Course Pitch Dimensions are symmetrical about Third Angle Projection

Loading Information

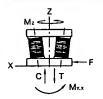
SERIES

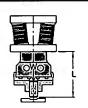
RCW

9.26

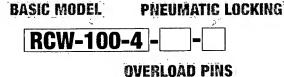
How to Order:

centerline





3.5 Kg



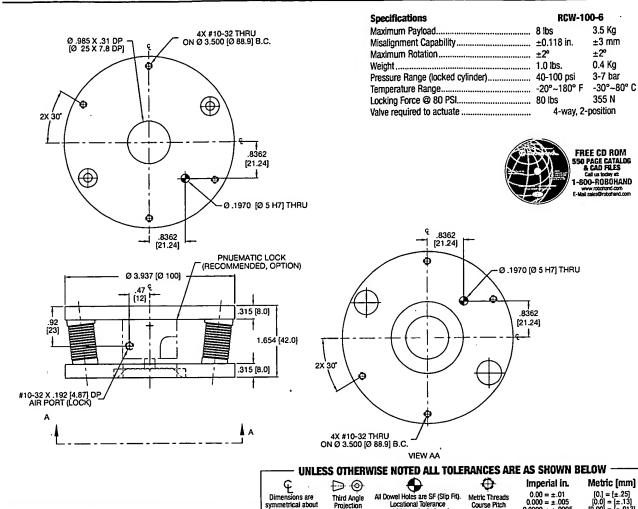
Loading Capacity[†] Imperial Metric Maximum Force F 34 lbs. 150 N Maximum Tension T 124 lbs. 550 N 124 lbs. 550 N Maximum Compressive C 177 in.-1bs. 20 Nm Maximum Moment Mx Maximum Moment My 177 in.-1bs. 20 Nm Maximum Moment Mz 177 in.-1bs. 20 Nm

8 lbs.

Stiffness Information

Maximum Payload W

	Imperial	Metric
Torsional Stiffness about Z axis	412 in-lbs/deg	46 N-m/deg
Lateral Stiffness (X and Y axis)	286 lbf/in	50 N/mm
Axial Stiffness (compression Z axis)	11991 lbf/in	2100 N/mm
Incortion Point I May	6 ln	150 mm



How to Order:

Third Angle Projection

Dimensions are symmetrical about centerline



Loading Capacity[†]

Maximum Compressive C

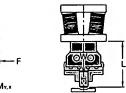
Maximum Moment Mx

Maximum Moment My

Maximum Moment Mz

Maximum Payload W

Maximum Force F Maximum Tension T



Imperial

55 lbs.

180 lbs.

180 lbs.

265 In.-1bs.

265 in.-1 bs.

265 in.-1bs.

8 lbs.

Metric

240 N

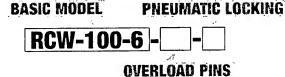
800 N 800 N

30 Nm

30 Nm

30 Nm

3.5 Kg



±.0005" or (±.013mm)

0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005

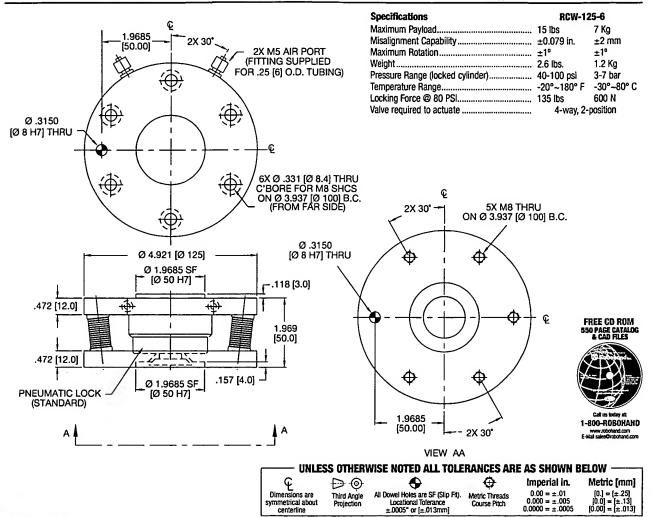
Metric Threads

Stiffness Information

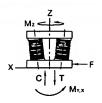
ANTIHOOD INHOLLINGS	4011	
	Imperial	Metric
Torsional Stiffness about Z axis	628 in-lbs/deg	71 N-m/deg
Lateral Stiffness (X and Y axis)	457 lbf/in	80 N/mm
Axial Stiffness (compression Z axis)	18275 lbf/in	3200 N/mm
Incertion Point 1 May	6 in	150 mm

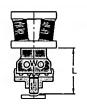
9.27





How to Order:





BASIC MODEL

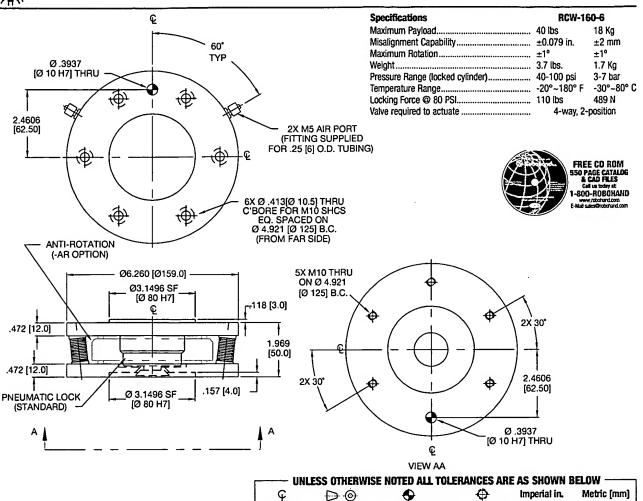
RCW-125-6

Loading Capacity[†]

Luauniy Gapacity	impenai	Metric
Maximum Force F	36 lbs.	160 N
Maximum Tension T	180 lbs.	800 N
Maximum Compressive C	180 lbs.	800 N
Maximum Moment Mx	265 in1bs.	30 Nm
Maximum Moment My	265 in1bs.	30 Nm
Maximum Moment M₂	265 in1bs.	30 Nm
Maximum Payload W	15 lbs.	7 Kg

	Imperial	Metric
Torsional Stiffness about Z axis	785 in-lbs/deg	88 N-m/deg
Lateral Stiffness (X and Y axis)	457 lbf/in	80 N/mm
Axial Stiffness (compression Z axis)	18275 lbf/in	3200 N/mm
Insertion Point L Max	8 in.	200 mm

COMPLIANCE WRIST RCW-160-6



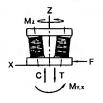
Loading Information

How to Order:

Third Angle Projection

Dimensions are

symmetrical about centerline





Metric

160 N

800 N

800 N

30 Nm

30 Nm

30 Nm

18 Kg

Imperial

36 lbs.

180 lbs.

180 lbs.

265 in -1bs.

265 in.-1bs.

265 in.-1bs.

40 lbs.

BASIC MODEL ANTI-ROTATION

Metric Threads

0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005

SERIES

9.29

RCW-160-6 -

All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]

Stiffness Information

Loading Capacity[†]

Maximum Force IF

Maximum Tension T

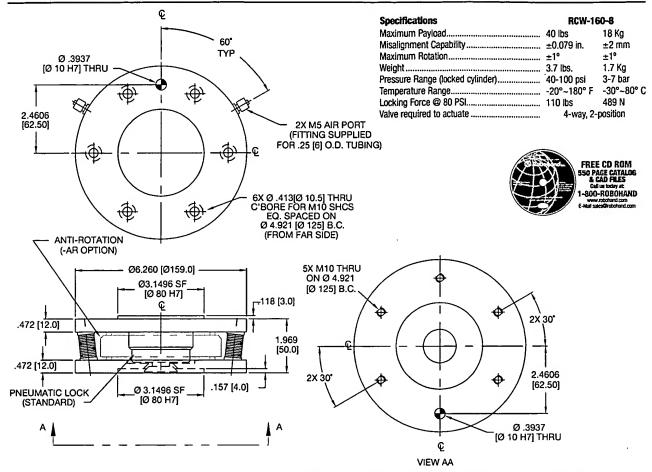
Maximum Compressive ${\bf C}$ Maximum Moment ${\bf M}_{\bf X}$

Maximum Moment My

Maximum Moment Mz

Maximum Payload W

	Imperial	Metric
Torsional Stiffness about Z axis	998 in-lbs/deg	113 N-m/deg
Lateral Stiffness (X and Y axis)	457 lbf/in	80 N/mm
Axial Stiffness (compression Z axis)	18275 lbf/in	3200 N/mm
Insertion Point L Max	12 in.	300 mm



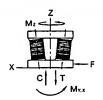
How to Order:

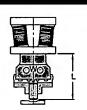
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Third Angle

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Dimensions are symmetrical about centerline





BASIC MODEL ANTI-ROTATION RCW-160-8 -

0

Imperial in.

0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005

Metric [mm]

 $[0.] = [\pm .25]$ $[0.0] = [\pm .13]$ $[0.00] = [\pm .013]$

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

All Dowel Holes are SF (Stip Fit).
Locational Tolerance
±.0005" or [±.013mm]

All Dowel Holes are SF (Stip Fit).

Course Pitch

0

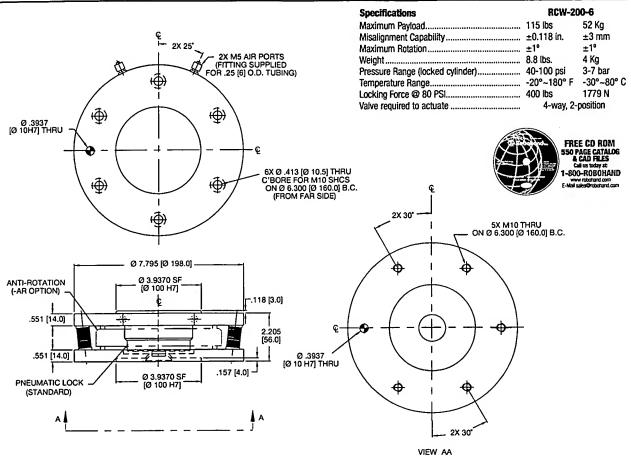
ROW SERIES

9,30

Luaumy Capacity	ımpenai	Metric
Maximum Force F	45 lbs.	200 N
Maximum Tension T	225 lbs.	1001 N
Maximum Compressive C	225 lbs.	1001 N
Maximum Moment Mx	708 in1bs.	80 Nm
Maximum Moment My	708 in1bs.	80 Nm
Maximum Moment Mz	708 in1bs.	80 Nm
Maximum Payload W	40 lbs.	18 Kg

	Imperial	Metric
Torsional Stiffness about Z axis	1310 in-lbs/deg	148 N-m/deg
Lateral Stiffness (X and Y axis)	570 lbf/in	100 N/mm
Axial Stiffness (compression Z axis)	23985 lbf/in	4200 N/mm
Insertion Point L Max	12 in.	300 mm

COMPLIANCE WRIST RCW-200-6



Loading Information

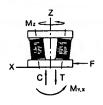
How to Order:

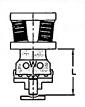
₽ ⊚

Third Angle Projection

Dimensions are

symmetrical about centerline





Imperial

55 lbs.

180 lbs.

180 lbs.

265 in.-1bs.

265 in.-1bs.

265 in -1hs.

115 lbs.

Metric

240 N

800 N

800 N

30 Nm

30 Nm

30 Nm

52 Ka

BASIC MODEL ANTI-ROTATION

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

All Dowel Holes are SF (Slip Fit).
Locational Tolerance
±.0005" or [±.013mm]

Metric Threads
Course Pitch

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Imperial in.

0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005 Metric [mm]

 $\{0.\} = \{\pm .25\}$ $[0.0] = \{\pm .13\}$ $[0.00] = \{\pm .013\}$

RGW SERIES

9.31

RCW-200-6 -

Stiffness Information

Loading Capacity

Maximum Force F

Maximum Tension T Maximum Compressive C

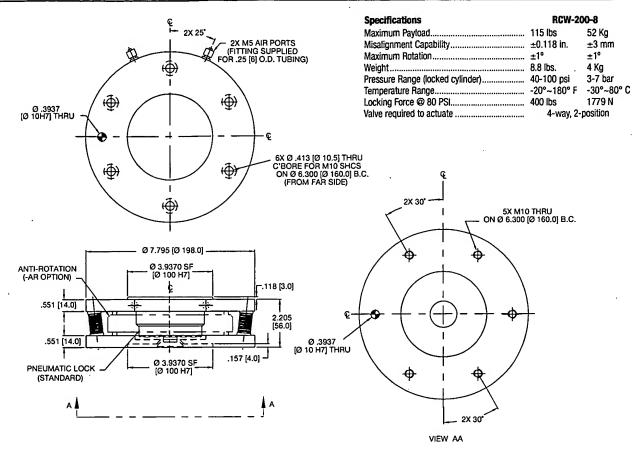
Maximum Moment Mx

Maximum Moment My

Maximum Moment Mz

Maximum Payload W

Imperial Metric
Torsional Stiffness about Z axis 1243 In-lbs/deg 140 N-m/deg
Lateral Stiffness (X and Y axis) 457 lbt/in 80 N/mm
Axial Stiffness (compression Z axis) 18275 lbt/in 3200 N/mm
Insertion Point L Max 16 in. 400 mm





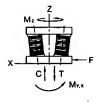
--- UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

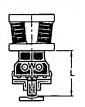
Olimensions are symmetrical about centertine Third Angle Projection Centertine All Dowel Holes are SF (Slip Fit).

All Dowel Holes are SF (Slip Fit). Metric Threads Course Pitch 0.000 = ±.015 0.000 = ±.005 0.0000 = ±.005 0.0000 = ±.005 0.0000 = ±.013 [0.0] = [±.13]

Loading Information

How to Order:





Metric

Imperial

BASIC MODEL	ANTI-ROTATION
4,	<u> </u>
RCW-200	-8 -

Loading Capacity¹

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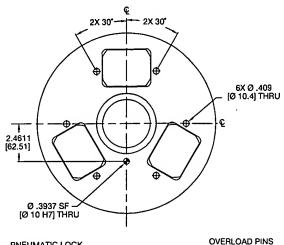
9.32

Maximum Force F	68 lbs.	300 N
Maximum Tension T	225 lbs.	1001 N
Maximum Compressive C	225 lbs.	1001 N
Maximum Moment M _X	709 in1bs.	80 Nm
Maximum Moment My	709 in1bs.	80 Nm
Maximum Moment Mz	709 in1bs.	80 Nm
Maximum Payload W	115 lbs.	52 Kg

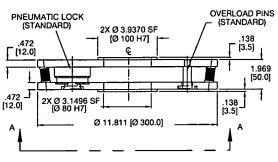
	Imperial	Metric
Torsional Stiffness about Z axis	1632 in-lbs/deg	184 N-m/deg
Lateral Stiffness (X and Y axis)	570 lbf/in	100 N/mm
Axial Stiffness (compression Z axis)	23985 lbf/in	4200 N/mm
Insertion Point L Max	16 in.	400 mm

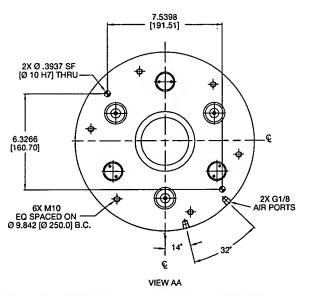


COMPLIANCE WRIST RCW-300-12



Specifications	RCW-300-12	
Maximum Payload	330 lbs	150 Kg
Misalignment Capability	±0.098 in.	±2.5 mm
Maximum Rotation	±1°	±1°
Weight	12.8 lbs.	5.8 Kg
Pressure Range (locked cylinder)		3-7 bar
Temperature Range	-20°~180° F	-30°~80° C
Locking Force @ 80 PSI		1779 N
Valve required to actuate	4-way, 2-position	







UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

ę \bigcirc Third Angle Projection Dimensions are symmetrical about centerline

• All Dowel Holes are SF (Slip Fit).
Locational Tolerance
±.0005" or [±.013mm]

Metric Threads
Course Pitch

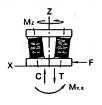
BASIC MODEL

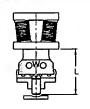
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Imperial in. Metric [mm] 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005 $[0.] = [\pm .25]$ $[0.0] = [\pm .13]$ $[0.00] = [\pm .013]$

Loading Information

How to Order:

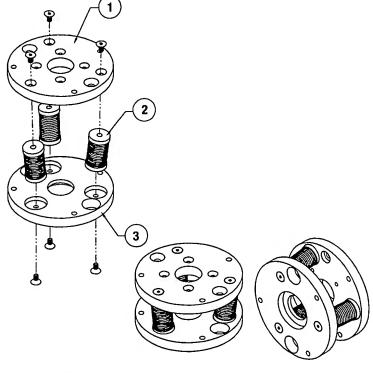




RCW	/-3	00	-1	2
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Loading Capacity[†] Imperial Metric Maximum Force F 90 lbs. 400 N Maximum Tension T 450 lbs. 2000 N Maximum Compressive C 450 lbs. 2000 N 100 Nm Maximum Moment Mx 880 in.-1bs. Maximum Moment My · 880 in.-lbs. 100 Nm Maximum Moment Mz 880 in.-1bs. 100 Nm Maximum Payload W 330 lbs. 150 Kg

	Imperial	Metric
Torsional Stiffness about Z axis	3742 in-lbs/deg	422 N-m/deg
Lateral Stiffness (X and Y axis)	915 lbf/in	160 N/mm
Axial Stiffness (compression Z axis)	36545 lbf/in	6400 N/mm
Insertion Point L Max	24 ln.	600 mm



Item	Qty	Name	
01	1	Top Plate	
02	X	Flexible Element	
03	1	Bottom Plate	
04	1	Locking Cylinder	
05	_1	Overload Pin	
06	1	Piston	
07	1	Cap	

NOTE: Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

Centering Cone

SK Seal Repair Kit Order #'s See Product Data Sheets

